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Filing Date	August 18, 2003
First Named Inventor	Sheng-Chih LAI
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Examiner Name	W. D. Coleman
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ENCLOSURES (*Check all that apply*)

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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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Signature			
Printed name	Joe McKinney Muncy		
Date	May 16, 2006	Reg. No.	32,334

Docket No.: 4448-0181PUS1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Sheng-Chih LAI et al.

Application No.: 10/642,244 Confirmation No.: 8162

Filed: August 18, 2003 Art Unit: 2823

For: MASK READ ONLY MEMORY CONTAINING DIODES AND METHOD OF MANUFACTURING THE SAME Examiner: W. D. Coleman

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Examiner's Answer dated April 6, 2006 which responds to Applicant's Appeal Brief of January 23, 2006, the following comments are made.

On page 3 of the Examiner's Answer, in paragraph 4 (which relates to claim 1), line 7 relates to "a plurality of dielectric layers 120 on part of the diodes; and" (emphasis added). Applicants wish to point out again that the words "on part of" were removed by way of the Amendment dated May 12, 2005. Thus, the correct recitation is that the dielectric layers are on the diodes rather than on part of the diodes.

In the Examiner's Response to arguments in the paragraph bridging pages 8 and 9 of the Examiner's Answer, the Examiner points out that the anti-fuse material is a dielectric material. Thus, the Examiner is indicating there and also on page 3 of the Answer that the vertical diodes are seen in Johnson as 12 and the dielectric layers on the diodes are layer 120.

Applicants wish to point out that the pillar 12, which the Examiner equates to the vertical diodes includes two diode components 13 and 14 separated by anti-fuse layer 16. As indicated in the last line of the abstract and on column 3, lines 10-15, the diode is formed when the anti-fuse layer 16 is disrupted. Thus, there is no diode until the anti-fuse layer becomes conductive. Thus, it is clear that when that anti-fuse layer is dielectric, there is no diode because the two semi-connector parts are not in electrical contact. When the anti-fuse layer becomes conductive, a diode is formed, but there is no longer any dielectric layer. Thus, in one state there is a diode and no dielectric in the other state there is dielectric and no diode.

While the numbers for the various parts seems to switch among different figures, it is clear that the N and P layers forming the diodes are always separated by an anti-fuse layer, either numbered 16, 120 or 131. Applicants submit that Johnson does not teach the invention defined by claim 1 since at no time does the device have both the vertical diodes and a dielectric layer.

Furthermore, the language of the claim is that the dielectric layers are "on the diodes" This would indicate that a dielectric layer is on top of the diodes. The Examiner has attempted to equate this to the anti-fuse layer being in the middle of the diode. Even if the anti-fuse layer was dielectric, it would not be "on the diodes". Applicants submit that the Examiner has misinterpreted the Johnson reference is this regard and has tried to apply this feature to the previous language of the claim which is no longer at issue.

Claim 20, which is the only other independent claim similarly recites the diodes and the dielectric layers but further indicates that the dielectric layers are "directly" on the diodes. This language is even stronger that the dielectric layer must be on top of the diodes.

In view of the above, Applicant submit that the Examiner's rejection is in error and that the Examiner's rejection should be reversed.

Dated: May 16, 2006

Respectfully submitted,

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